Cognitive Learning Theory

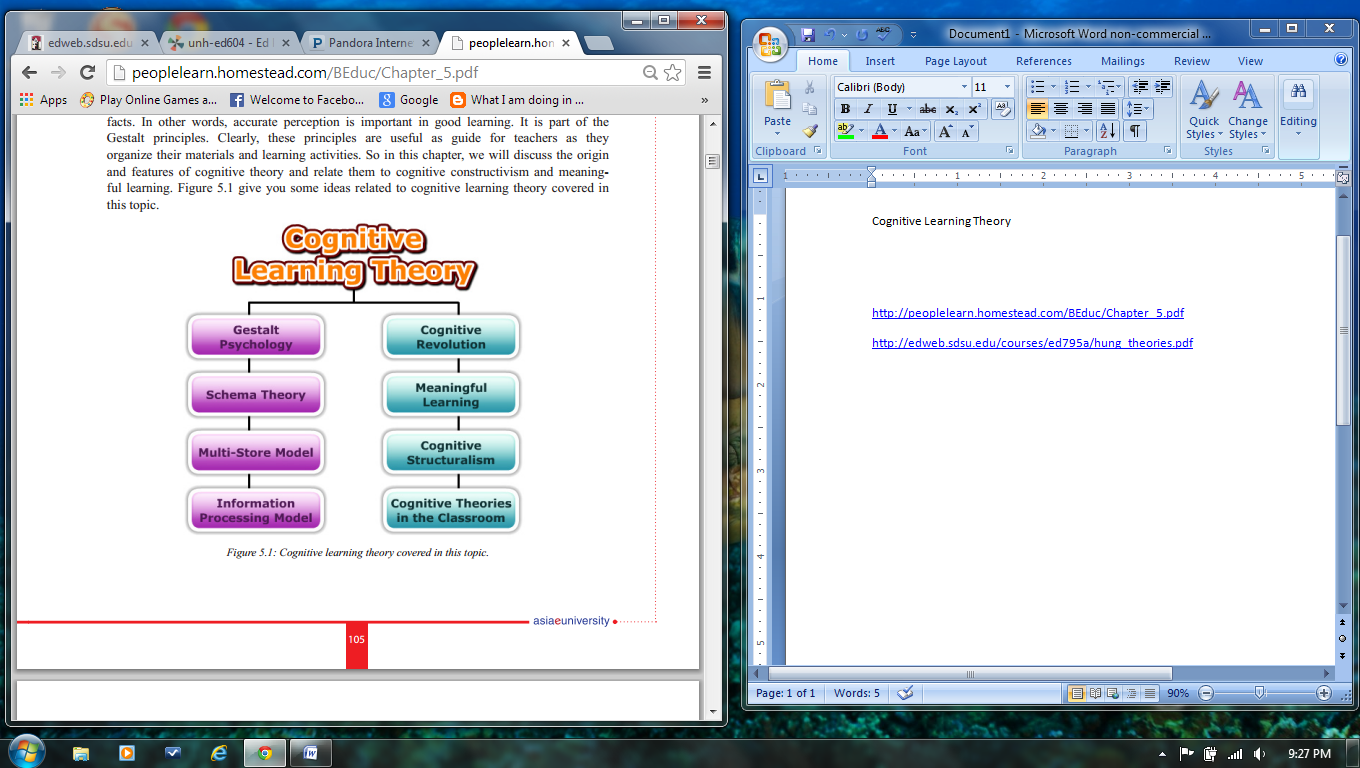
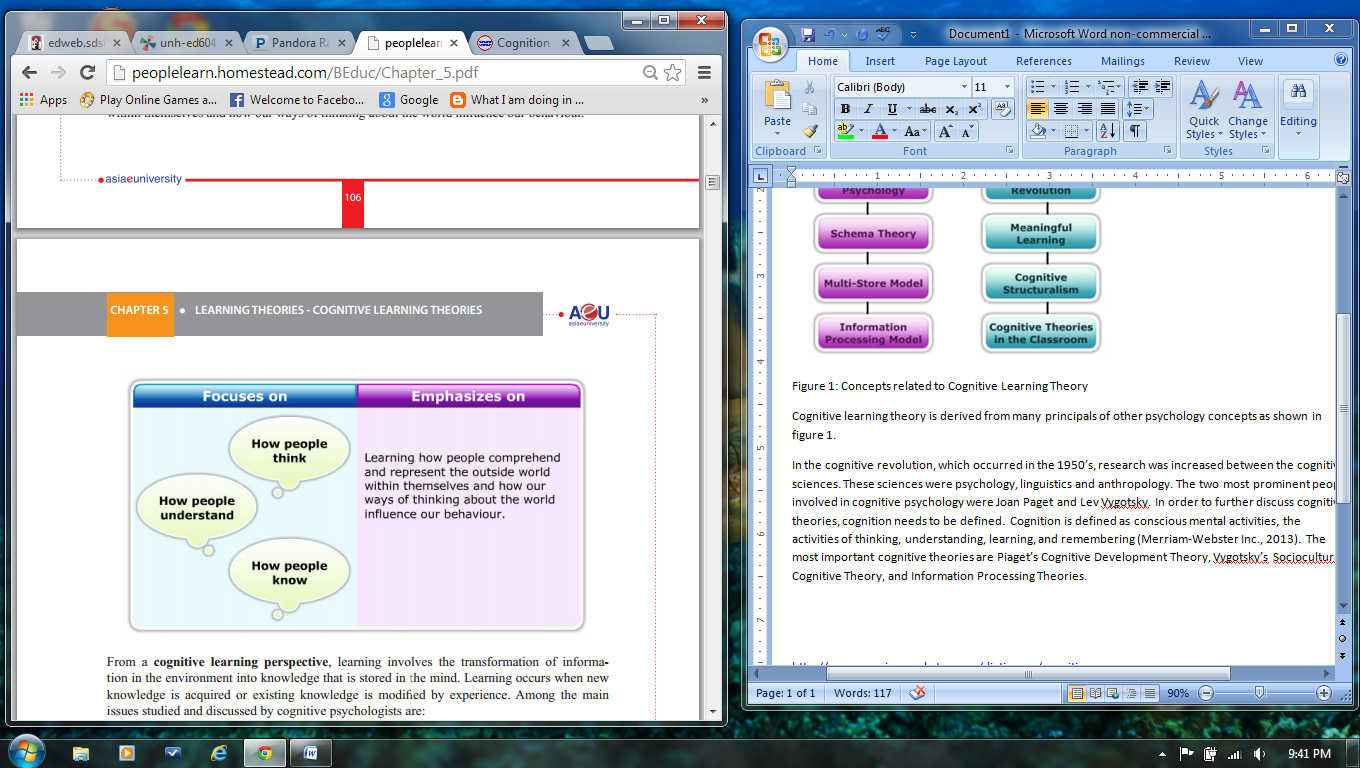


Figure 1: Concepts related to Cognitive Learning Theory

Cognitive learning theory is derived from many principals of other psychology concepts as shown in figure 1.

In the cognitive revolution, which occurred in the 1950’s, research was increased between the cognitive sciences. These sciences were psychology, linguistics and anthropology. The two most prominent people involved in cognitive psychology were Joan Paget and Lev Vygotsky. In order to further discuss cognitive theories, cognition needs to be defined. Cognition is defined as conscious mental activities, the activities of thinking, understanding, learning, and remembering (Merriam-Webster Inc., 2013). The most important cognitive theories are Piaget’s Cognitive Development Theory, Vygotsky’s Socio-cultural Cognitive Theory, and Information Processing Theories.

Figure 2: Displays the main focuses of cognitive psychologists as well as the emphasis of learning



Gestalt Psychology

This category of psychology describes how when perceiving something, the whole is different from the sum of its parts. These psychologists believed that learning related heavily to good perception and that good form, figure/ground, similarity, proximity, closure, and continuity aided in this process.

Informational Processing Model

These theorists proposed that the human mind is like a computer. By this they meant that as a computer functions from codes, rules and strategies, our brain works in the same fashion. Changes in the rules and strategies a person uses can make the brain better at processing information.

Multi-store Model of Memory

Since cognitive theory is based on how we think, memory is an important topic to consider. The three stages of memory are used for different tasks (Short-term, Long-term, and Sensory). Sensory information is held on to for the shortest amount of time (0.5 -3sec.), and is received from the environment through our senses. Short-term memory lasts for about 15-20 seconds and is also called working memory. Short-term memory contains what we are thinking about at any given moment while long-term memory lasts from a few minutes to a lifetime. This information contains facts that we know and procedures that we perform daily.

Schema Theory

Our understanding of the world is based off of a network of abstract ideas/representations that we have developed over time. Piaget refers to schema in his theory and R. C. Anderson has elaborated on it since then. Schemata allow us to easily categorize perceptions and act without effort. Schemata are like constantly growing concept maps where new ideas are being added and constant interconnections are being made.

Meaningful Learning

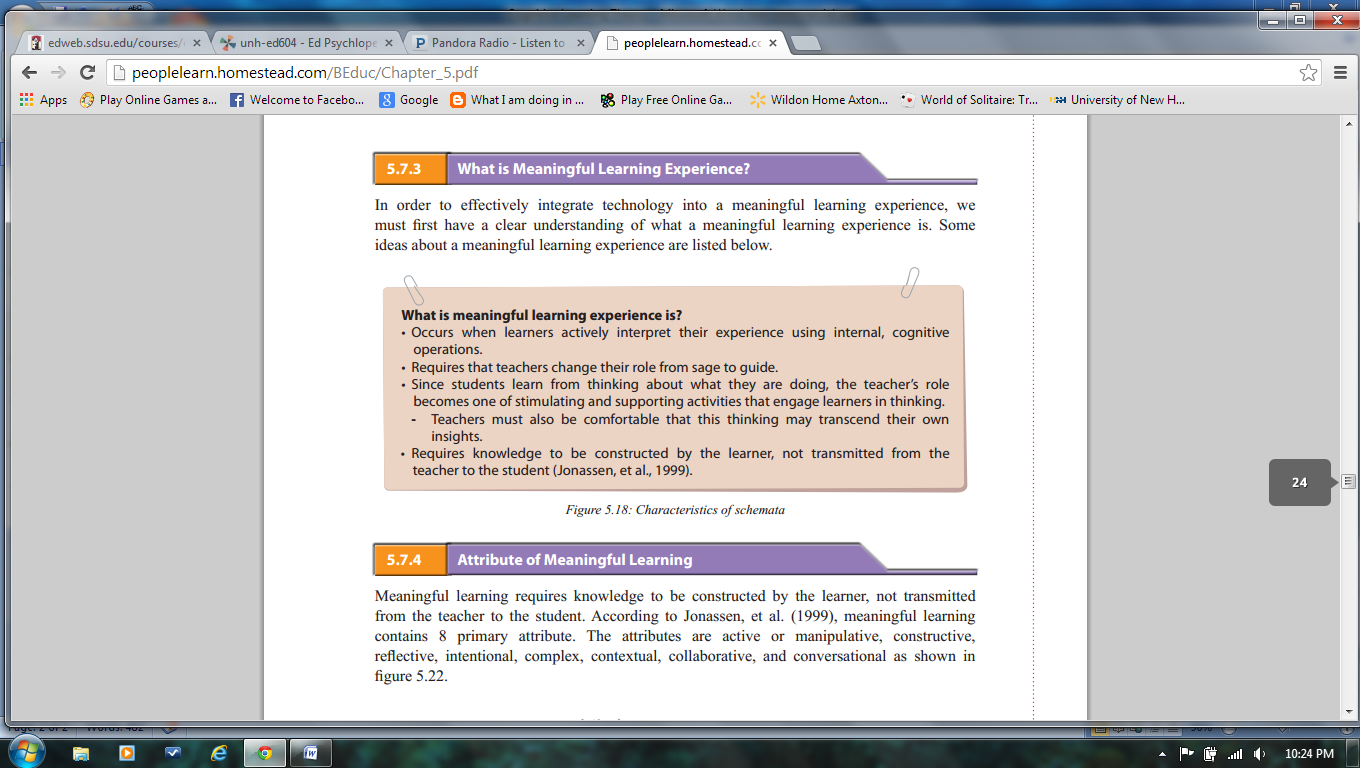


Figure 3: Shows the breakdown of meaningful learning

This basically describes how learning is best when new material can be related to material already known by the student. This allows them to form linkages between old and new material thereby expanding their mental concept maps/schemas. When meaningful learning is achieved the individual truly understands the material and can use the strategies and information and relate them to new material.

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